## CLAIMS

1. A multilayer coating for use on molten metal holding, stirring and transfer apparatus, the coating including a bond layer applied directly to the surface of the molten metal holding and transfer apparatus and a porous layer of ceramic material produced by co-deposition of a powder of said ceramic material and a powder of a suitable organic polymer material and, after the co-deposition, heating of said polymer material to cause its removal.

2. The multilayer coating wherein the bond layer is formed from a particulate material having at least one metal component in a metallic, intermetallic, oxide, clad or alloyed form.

3. The coating of claim 2 where at least one metal component in the bond layer is selected from the group consisting of molybdenum, nickel, aluminium, chromium, cobalt, yttrium and tungsten.

4. The coating of claim 3 wherein the at least one metal component is in combination with at least one of yttria, alumina, zirconia, boron or carbon.

5. The coating of claim 2 wherein the particulate material has a particle size of 5 to 250μm.

6. The coating of claim 2 wherein the particulate material has a particle size of 40 to 125μm.

7. The coating of claim 1 wherein the bond layer has a thickness of 5 to 300μm.

8. The coating of claim 1 wherein the ceramic powder making up the porous layer is at least one metal compound selected from the group of oxides, nitrides, carbides and borides.

9. The coating of claim 1 wherein the ceramic powder making up the porous layer is at least one metal compound selected from the group of alumina, titania, silica, stabilized zirconia, silicon nitride, , silicon carbide and tungsten carbide.

10. The coating of claim 1 wherein the ceramic powder making up the porous layer is at least one mineral compound selected from the group of ilmenite, rutile or zircon.

11. The coating of claim 1 wherein the organic polymer is thermoplastic material selected from at least one of the group of polystyrene, styrene-acrylonitrile, polymethacrylates, polyesters, polyamides, polyamide-imides, and PTFE.

12. The coating of claim 9 wherein the size of the ceramic particle size is in the range of 20μm to 400μm .

13. The coating of claim 9 wherein the size of the ceramic particle size is in the range of 5-300μm .

14. The coating of claim 11 wherein the polymer particle size is in the range of 20-400μm .

15. The coating of claim 11 wherein the polymer particle size is in the range of 45-300μm .

16. The coating of claim 1 wherein the porous coating has a thickness of from 50-600μm.

17. A process of providing a coating on the surface of a metal transport and holding apparatus comprising the steps of:

applying a bond layer to the metal surface of an article;

co depositing a layer of ceramic and organic polymer particulate material onto the bond coat; and

heating the layer of ceramic and organic polymer material to bind the ceramic material and remove the polymer material to leave a porous layer of ceramic material.

18. The process of claim 17 wherein the step of heating to bind the ceramic particles and remove the polymer material is conducted at a temperature above the thermal decomposition temperature of the polymer material and up to 550°C.

19. The process of claim 17 wherein the bond layer is formed of a particulate material having at least one metal component in a metallic, intermetallic, oxide, clad or alloyed form.

20. The process of claim 19 wherein the at least one metal component in the bond layer is selected from the group consisting of molybdenum, nickel, aluminium, chromium, cobalt, yttrium and tungsten.

21. A metal holding and transfer apparatus comprising:

an article formed of a metal substrate for contacting molten metal,

the substrate having a multilayer coating comprising an initial bond layer applied to the surface of the article, and

a porous insulating ceramic layer formed by the co deposition of powders of ceramic particles and polymer and the heating of the co deposited layer to bind the ceramic particles and remove the polymer.

22. The apparatus of claim 21 wherein the bond layer has a thickness of 5 to 300μm and the porous ceramic insulating layer has a thickness of 50 to 600μm.

23. The metal holding and transport apparatus of claim 21 wherein the bond layer is formed of a particulate material applied to the metal substrate, the particular material having at last one metal component in a metallic, intermetallic, oxide, clad or alloyed form.

24. The metal holding and transport apparatus of claim 23 wherein at least one metal component in the bond layer is selected from the group consisting of molybdenum, nickel, aluminium, chromium, cobalt, yttrium and tungsten.